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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,248	03/23/2004	Marcus Sigl	54401	1774

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EXAMINER

DAVIS, BRIAN J

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 08/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,248

Applicant(s)

SIGL ET AL.

Examiner

Brian J. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim from which claim 8 depends (claim 6) already includes the limitation of the catalyst not having been deactivated by hydroamination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner respectfully suggests that the 24 hour or 6 hour use limitation is so unclear, as a description of the catalyst, as to be meaningless. This is so because it is not a direct measure of the catalyst's activity/enhancement, but merely a crude indirect measure of any such activity/enhancement.

Any time variable, per force, encompasses *many* other variables. In the instant case, the 24 or 6 hour time variable includes, for example, the physical variable of

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temperature during the time between activation and use, or the variable of the partial pressures of various gases in the atmospheric composition above the catalyst during this time. Such variables, and others, would presumably have an influence on the activity/enhancement of the catalyst. It therefore seems plausible that conditions could arise in which the catalyst's instant activity/enhancement was dissipated before the 24 or 6 hours were up. In which case, performing the instantly claimed process would not distinguish over the prior art; the catalysts would be intrinsically the same, all enhancement lost.

In short, it is unclear how a limitation of some arbitrary number of hours could ever distinguish the instant process from processes in the prior art. In fact, giving patentable weight to such arbitrary numbers for a particular batch of catalyst leads directly to the legal and logical absurdity that the process performed on a Monday is patentably distinct from the same process performed on Tuesday (i.e. 24+ hours later). Or that the process performed a little before 9AM in the morning is patentably distinct from one performed at 3PM that afternoon.

Claims 3-5 are also rejected under 35 USC 112, second paragraph, as claims which depend from indefinite claims are also indefinite. *Ex parte Cordova*, 10 USPQ 2d 1949, 1952 (PTO Bd. App. 1989).

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As the specification and claims clearly refer to a time

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limitation regarding the instant catalyst, *vide supra*, it becomes unclear if the catalyst of claim 9, which encompasses a catalyst both older and younger than 24 hours after thermal treatment, might be, in fact, two different catalysts. Or perhaps, just one, since the instant thermal activation of the catalyst appears to set in motion a dynamic process of catalyst change which eventually renders the catalyst indistinguishable from its initial state (as measured by activity).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA1 216 596, cited by applicant in the IDS.

Applicant claims a process for preparing alkylamines by reacting olefins with ammonia, primary or secondary amines under hydroaminating conditions over a calcined zeolitic catalyst, where the catalyst has been thermally activated at from 100-500°C in a stream of air, nitrogen, other inert gases or mixtures not more than 24 hours before commencement of the reaction (claim 1). The dependent claims further limit the process.

CA1 216 596 teaches a process for the preparation of an amine by reacting olefins with ammonia, primary or secondary amines (80-400°C; 40-700 bar) over a zeolite catalyst, where the zeolite is a borosilicate or borogermanate zeolite of the pentasil type (claim 1). The zeolite catalysts are calcined before use (page 3 line 17). When the catalyst has been deactivated by coking, it may be regenerated by burning off the coke in air at from 400-550°C (page 3 line 36).

In order for an invention to be obvious, two things must be found in the prior art: 1) the suggestion of the invention, and 2) the expectation of its success. *In re Vaeck*, 947 F2d 488, 492, 20 USPQ2d 1438, 1441 (Fed. Cir. 1991).

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The instant claim is the process of the prior art with the exception of the 24 hour catalyst use limitation, since the instant claim encompasses the use of a regenerated prior art catalyst. However, the use of a "freshly" activated catalyst (i.e. the prior art's regenerated catalyst) would have been obvious to one of ordinary skill in the art at the time of the invention, motivated by the routine practice in the chemical arts of using freshly prepared/purified reagents/starting materials/catalysts, etc. in any chemical reaction - for any number of reasons. As outlined above, the examiner holds that the arbitrary 24 hour or 6 hour use limitation is devoid of meaning because it leads to a legally and logically inconsistent conclusion.

Claim 3 is included in the rejection because the actual physical location of the activation step, i.e. the vessel in which it is performed, is immaterial to the chemistry. This is supported by related case law: The mere selection of reaction vessel cannot impart patentability, there can be no invention even though the results are better. *In re Leum et al.*, 158 F.2d 311, 597, 72 USPQ 127 (CCPA1947).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5,174,976 is cited to show a related calcinating technique.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 **BRIAN DAVIS**
PRIMARY EXAMINER

Brian J. Davis
August 12, 2005